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Amendments to the Drawings:

The attached sheet of drawings includes amendments to **FIG. 5**.

- a. In the amendment to **FIG. 5**, the graph was amended for clarification.

Attachments:

1 Replacement Sheet

1 Annotated Sheet Showing Changes

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ii. ARGUMENT

a. Objections to the Drawings

Applicant asserts that Figure 5 is being replaced with this amendment. Therefore the objection to Figure 5 ought to now be withdrawn.

b. Objections to the Specification

Applicant asserts that the Title is being replaced with this amendment. Therefore the objection to the specification ought to now be withdrawn.

c. Rejections of Claims 1-10 and 13 under 35 U.S.C. §102(e) (673 Reference)

For ease of review, Applicant reproduces independent claim 1 herein below:

1. A magnetic random access memory device comprising:
plurality of magnetic memory elements;
a sense line coupled to the plurality of magnetic memory elements for sensing a magnetic orientation of at least one of the plurality of magnetic memory elements wherein the sense line includes a first via and a second via; and
wherein the sense line is utilized to thermally assist in switching a magnetic orientation of at least one of the plurality of magnetic memory elements.

Applicant respectfully disagrees with the Examiner's assessment. The present invention of claim 1 recites a magnetic random access memory device. Accordingly, a sense line is utilized to thermally assist in the switching of the magnetic orientation of magnetic memory elements within the MRAM device. By utilizing the sense line to thermally assist in the switching of the magnetic orientation of magnetic memory

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elements within the MRAM device, the write current needed to perform the write operations of the MRAM device is substantially reduced.

The Examiner states that the *Daughton et al.* reference anticipates the present invention. Applicant respectfully disagrees and asserts that the *Daughton et al.* reference does not disclose "...a sense line coupled to the plurality of magnetic memory elements for sensing a magnetic orientation of at least one of the plurality of magnetic memory elements **wherein the sense line includes a first via and a second via...**" as recited in claim 1 of the present invention. (Emphasis added.) *Daughton et al.* discloses a ferromagnetic thin-film based digital memory having a bit structures therein a magnetic material film in which a magnetic property thereof is maintained below a critical temperature above which such magnetic property is not maintained, and may also have a plurality of word line structures each with heating sections located across from the magnetic material film in a corresponding one of the bit structures.

These bit structures are sufficiently thermally isolated to allow selected currents in the adjacent word lines or in the bit structure, or both, to selectively heat the bit structure to approach the critical temperature. Such bit structures may have three magnetic material layers each with its own critical temperature for maintaining versus not maintaining a magnetic property thereof.

The Examiner asserts that *Daughton et al.* discloses first and second vias as described in Figure 11A, paragraph 82. Applicant respectfully disagrees. Figure 11A of *Daughton et al.* as described in paragraph 82 reads:

In a further alternative, the establishment of heating current pulses for a selected cell 10 can be accomplished through a portion of its sense line 20' and a portion of its corresponding word line 22, as well as through that selected cell, if the cell is electrically connected by a switching transistor to that word line. In the FIG. 11A arrangement, there would be an electrical current conduction via **from word line 22** at each of cells 10 therealong into substrate 2 to the corresponding switching transistor in the substrate for

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that cell, *and a further conduction via into the substrate to the other side that transistor along the main current flow path therethrough from an adjacent interconnection 20 in contact with that cell.* Thus, opening the circuit at one end of a sense line 20' in which a selected cell is connected, and placing the other end at a voltage relatively low or high with respect to the voltage concurrently established on the adjacent one of word lines 22, will allow current to be established through portions of that sense line and that word line as well as the cell if the cell switching transistor is switched on to provided a thermal pulse to that cell. Data storage currents are used to store data during such heating in a similar manner to the description above, and sense currents in sense lines 20' again are used to determine the cell resistance in retrieving stored data therefrom. (Emphasis added.)

Essentially, the Examiner is equating "...a further conduction via into the substrate to the other side that transistor along the main current flow path therethrough from an adjacent interconnection 20 in contact with that cell..." of the *Daughton et al.* reference with the first and second vias recited in claim 1 of the present invention. Applicant asserts that Examiner is mistaken in this incorrect with this line of thinking. The first and second vias of the recited invention of claim 1 are two separate elements of the sense line. The *Daughton et al.* reference discloses a single conduction via, not a first and second via as recited in independent claim 1 of the recited invention.

Applicant asserts that a sense line including a first and second via, as recited in independent claim 1 is clearly different from the implementation of a single conduction via as disclosed in the *Daughton et al.* reference. Consequently, *Daughton et al.* does not disclose "...wherein the sense line includes a first via and a second via ..." as recited in independent claim 1 of the present invention. Since the *Daughton et al.* reference does not disclose "...wherein the sense line includes a first via and a second via ..." as recited

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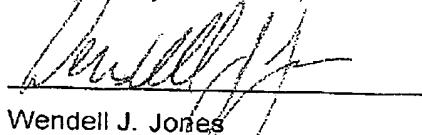
in claim 1 of the present invention, the *Daughton et al.* reference does not anticipate independent claim 1 of the recited invention. Therefore, independent claim 1 is allowable over the *Daughton et al.* reference and the rejection of independent claim 1 under 35 U.S.C. §102(e) ought to now be withdrawn.

Claims 2-10 and 13 depend from independent Claim 1 and inherit all of its limitations. Therefore, Claims 2-10 and 13 are also patentably distinct in view of the Examiner's reference and the rejections of Claims 2-10 and 13 under 35 U.S.C. §102(e) ought to now be withdrawn.

iii. CONCLUSION

Applicant believes that this application is in condition for allowance. Accordingly, Applicant respectfully requests reconsideration, allowance and passage to issue of the claims as now presented. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,



Wendell J. Jones

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